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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/756,874	01/14/2004	Faheem Altaf	AUS920031014US1	3247

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Intellectual Property Law Dept.
IBM Corporation
11400 Burnet Road
Austin, TX 78758

EXAMINER

EHICHIOYA, FRED I

ART UNIT	PAPER NUMBER
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2162

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/756,874

Applicant(s)

ALTAF ET AL.

Examiner

Fred I. Ehichioya

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/14/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/14/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responsive to communications filed January 14, 2004.
2. Claims 1 – 29 are pending in this Office Action.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 – 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,947,985 issued to Hegli et al (Hereinafter "Hegli") in view of USPN 5,935,206 issued to Dixon et al (Hereinafter "Dixon").

Regarding claims 1, 9 and 26, Hegli discloses a method, comprising:
monitoring at least one operating condition associated with a database
(column 10, lines 53 – 67: Applicant defines on 12, lines paragraph 2 of the specification various example of ***operating conditions***; therefore examiner interprets “access to sites/pages”, “network bandwidth used”, “users requested sites/page” as “operating conditions”);

accessing a prestored threshold value associated with the at least one operating condition (column 9, lines 61 – 67);

comparing a value representative of the monitored operating condition with the prestored threshold value (column 3, lines 31 – 34 and column 8, lines 10 – 12).

Hagli does not explicitly teach adjusting a number of at least a portion of the database as claimed.

Dixon discloses adjusting a number of copies of at least a portion of the database based on the comparison (column 2, lines 12 – 24).

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine teaching of the cited references because Dixon's teaching of “adjusting a number of copies of at least a portion of the database” would have allowed Hagli's system to automatically tailor the number of copies of databases and allocated bandwidths to users requirements. This will enable uninterrupted users' access to the database when the number of

current users' access increase to a pre-determined percentage of the total expected number.

Regarding claim 2, Hagli discloses wherein the act of monitoring comprises monitoring a number of users accessing the database over a selected time period (column 5, lines 38 – 42), and wherein the act of accessing comprises accessing the threshold value that is indicative of a number of users that can access the database over the selected time period (column 8, lines 10 – 27) before an adjustment is made to the number of copies of the database (column 5, lines 53 – 60).

Regarding claim 3, Hagli discloses wherein the database is associated with a processor-based device that is communicatively coupled to a network, wherein the act of monitoring comprises monitoring at least one of resources associated with the processor-based device, process load associated with the processor-based device, traffic flow associated with the network, and frequency of failovers associated with the database (column 4, lines 65 – 67).

Regarding claim 4, Dixon discloses wherein the act of adjusting comprises increasing the number of database copies of the database in response to determining that the prestored threshold value exceeds the representative value of the monitored operating condition (column 3, lines 12 – 15).

Regarding claim 5, Dixon discloses wherein increasing the number of copies of the database comprises making a copy of the database, and further comprising identifying at least one of a plurality of devices on which the copy of the database is to be stored and storing the database replica on the identified device (column 4, lines 52 – 61).

Regarding claim 6, Dixon discloses wherein the act of identifying comprises identifying the device based on at least one of an amount of available resource associated with the device, a network connection rate associated with the device, and a processing capability associated with the device (column 4, lines 61 – 64).

Regarding claim 7, Dixon discloses wherein the act of adjusting comprises reducing the number of copies of the database in response to determining that the representative value of the monitored operating condition is less than the prestored threshold value (column 3, lines 15 – 18).

Regarding claim 8, Dixon discloses wherein a plurality of copies of databases exists on one or more devices, further comprising identifying at least one copy of the database from the plurality of database copies to delete based on at least one of an amount of available resources associated with the device, a network connection rate associated with the device, and a processing capability associated with the device (column 6, lines 29 – 32).

Regarding claims 10 and 17, Dixon discloses wherein the instructions when executed enable the processor to make at least one replica of the database in response to determining that the prestored threshold value exceeds the representative value (column 3, lines 12 – 15).

Regarding claims 11 and 18, Dixon discloses wherein the instructions when executed enable the processor to identify at least one of a plurality of devices on which the replica of the database is to be stored and to store the database replica on the identified device (column 4, lines 52 – 61).

Regarding claims 12 and 19, Dixon discloses wherein the instructions when executed enable the processor to identify the device based on at least one of an amount of available resource associated with the device, a network connection rate associated with the device, and a processing capability associated with the device (column 4, lines 61 – 64).

Regarding claims 13 and 20, Dixon discloses wherein the instructions when executed enable the processor to reduce the number of replicas of the database in response to determining that the representative value is less than the prestored threshold value (column 3, lines 15 – 18).

Regarding claims 14 and 21, Dixon discloses wherein a plurality of database replicas exists on one or more devices, wherein the instructions when executed enable the processor to identify at least one replica of the database from the plurality of database replicas to delete based on at least one of an amount of available resources associated with the device, a network connection rate associated with the device, and a processing capability associated with the device (column 6, lines 29 – 32).

Regarding claims 15 and 22, Dixon discloses wherein the instructions when executed enable the processor to determine a number of users accessing the database over a selected time period and to access the threshold value that is indicative of a number of users that can access the database over the selected time period before an adjustment is made to the number of replicas of the database (column 3, lines 10 – 20).

Regarding claim 16, Hagli discloses an apparatus, comprising:
a storage unit having stored therein a database (Fig. 2); and
a control unit communicatively coupled to the storage unit, the control unit adapted to (Fig. 2 and column 7, lines 21 – 35):

determine at least one operating condition associated with the database (column 7, lines 21 – 46: Applicant defines on 12, lines paragraph 2 of the specification various example of **operating conditions**; therefore examiner interprets “access to sites/pages”, “network bandwidth used”, “users requested sites/page” as “operating conditions”);

access a prestored threshold value (column 9, lines 43 – 60);

compare a value representative of the determined operating condition with the prestored threshold value (column 3, lines 31 – 34 and column 8, lines 10 – 12).

Hagli does not explicitly teach adjust a number replicas of the database based on the comparison as claimed.

Dixon discloses adjust a number replicas of the database based on the comparison (column 2, lines 12 – 24).

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine teaching of the cited references because Dixon's teaching of "adjust a number replicas of the database based on the comparison" would have allowed Hagli's system to automatically tailor the number of copies of databases and allocated bandwidths to users requirements. This will enable uninterrupted users' access to the database when the number of current users' access increase to a pre-determined percentage of the total expected number.

Regarding claim 23, Hagli discloses a system, comprising:

a first server (column 1, lines 15 – 19); and

a second server communicatively coupled to the first server, the second server

adapted to (column 1, lines 15 – 19): determine at least one operating

condition associated with a database(column 7, lines 21 – 46: Applicant defines

on 12, lines paragraph 2 of the specification various example of ***operating conditions***;

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therefore examiner interprets “access to sites/pages”, “network bandwidth used”, “users requested sites/page” as “operating conditions”);

access a prestored threshold value (column 9, lines 43 – 60);

compare a value representative of the determined operating condition with the prestored threshold value (column 3, lines 31 – 34 and column 8, lines 10 – 12).

Hagli does not explicitly teach replicas of the database as claimed.

Dixon discloses cause a replica of the database to be created on the first server based on the comparison (column 4, lines 12 – 26).

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine teaching of the cited references because Dixon's teaching of “cause a replica of the database to be created” would have allowed Hagli's system to automatically tailor the number of copies of databases and allocated bandwidths to users requirements. This will enable uninterrupted users' access to the database when the number of current users' access increase to a pre-determined percentage of the total expected number.

Regarding claim 24, Hagli discloses wherein the first server and the second server are associated with a cluster (column 1, lines 15 – 19).

Regarding claim 25, Dixon discloses wherein the second server is further adapted to cause the database replica to be removed based on comparing a value representative of the determined operating condition with a second prestored threshold value (column 6, lines 29 – 32).

Regarding claim 27, Hagli discloses dynamically adjusting the preselected threshold value based on one or more surrounding operating conditions (column 9, lines 49 – 51).

Regarding claim 28, Dixon discloses wherein adjusting the number of copies comprises creating at least one replica of the database based on the comparison (column 3, lines 12 – 15).

Regarding claim 29, Dixon discloses wherein adjusting the number of copies comprises deleting at least one copy of the database based on the comparison (column 6, lines 29 – 32).

Conclusion


4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred I. Ehichioya whose telephone number is 571-272-4034. The examiner can normally be reached on M - F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on 571-272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Fred I. Ehichioya
Patent Examiner
Art Unit 2162

August 3, 2006



SHAHID ALAM
PRIMARY EXAMINER